CareFirst, Inc.

Group Hospitalization and Medical Services, Inc.

Need for Statutory Surplus
and
Development of Optimal Surplus Target Range

March 22, 2005

Robert H. Dobson, F.S.A.

Phyllis A. Doran, F.S.A.

James A. Dunlap, F.S.A.

Ronald G. Harris, F.S.A.

TABLE OF CONTENTS

I. OVERVIEW

A. Background and Scope

The Company. Group Hospitalization and Medical Services, Inc. (GHMSI) does business as CareFirst BlueCross BlueShield in the District of Columbia and certain counties in Virginia and Maryland. The Company is affiliated with CareFirst, Inc. (CFI), a not-for-profit company also affiliated with CareFirst of Maryland, Inc. and BlueCross BlueShield of Delaware. In addition, GHMSI owns 40% of CareFirst BlueChoice, an HMO operating in the District of Columbia and Maryland. For the purposes of this report, GHMSI is understood to mean the combination of 100% of the business of GHMSI itself and 40% of the business of CareFirst BlueChoice. The business of the other CFI affiliates is not reflected in this report.

Chart 1 shows the breakdown of the company's business between non-FEP insured or risk business, FEP, and ASC. For the purposes of this report, FEP refers to the Plan's participation in the Blue Cross Blue Shield Association Federal Employee Program, and ASC refers to administrative services only contracts with employers. The relatively large proportion of the Plan's business that is FEP is unusual in our experience, and hence we have split it out separately. While FEP is an insured program, the contract is held by the Blue Cross Blue Shield Association. Separate reserves, or surplus, are held on behalf of this program, which, at their current level, significantly reduce the underwriting risk to individual Blue Cross and Blue Shield plans such as GHMSI. ASC business, by its nature, does not present an underwriting risk, but involves other risks which are discussed later in this report.

General. Adequate surplus is central to the viability and sound operation of any insuring organization. It is needed to enable a company like GHMSI to ensure that the promises and commitments made in offering health care protection to its customers, directly and through its subsidiaries, can continue to be met. It is also needed to ensure that its promises and obligations to hospitals, physicians, and other providers can be met. Further, surplus is needed by a company like GHMSI to develop new products, maintain and operate complementary services and coverages, build infrastructure, respond to new business opportunities, develop and maintain

service capabilities, and generally operate effectively as a viable ongoing business entity over time.

GHMSI, as an affiliate of CFI, has committed itself to the following corporate mission (portions omitted):

> The mission of CareFirst BlueCross BlueShield is to provide health benefit services of value to customers across the region comprised of Maryland, Delaware, and the National Capital Area. To fulfill this mission, CareFirst BlueCross BlueShield commits to:
>
> - Offer a broad array of quality, innovative insurance plans and administrative services that are affordable and accessible to our customers;
> - Conduct business responsibly as a non-profit health service plan, to ensure the plan's long-term financial viability and growth;

This is an important factor with regard to the platform on which the company plans and builds for the future. It means that GHMSI must always keep itself in a position to meet the promises and commitments it has made, under whatever circumstances (anticipated or unforeseen) may arise. It also means that GHMSI must continue over time to offer health care coverage products that customers voluntarily choose to purchase.

In order to fulfill its corporate mission, GHMSI must be stable and strong financially. It must systematically build and maintain sufficient statutory surplus to remain viable over time, while competing in a market against strong regional entities and very large national managed care companies. These national competitors, in particular, have enormous financial and technological resources, extremely large enrollment bases over which to spread overhead costs, and the ability to diminish participation or withdraw from GHMSI's markets as they see fit. GHMSI should never underestimate the difficulty of fulfilling the commitment made in the CFI corporate mission.

Financial strength for GHMSI, under these conditions, requires ever vigilant attention to the fundamental financial elements of the health insurance business. Principal among these elements

are adequate rates, competitive costs (medical costs and administrative expenses), and strong statutory surplus. Inadequate performance over time with regard to any of these three elements is almost certain to lead to failure in meeting GHMSI's mission and commitments, and to failure to sustain itself as a viable business.

The development of an optimal surplus target range within which to strive to operate under normal circumstances is an important undertaking for a company such as GHMSI, as a matter of prudent business practice and planning. It should be updated periodically, to reflect fundamental changes in operations and the environment.

Scope of this Report. This report has been prepared by Milliman at the request of GHMSI. The purpose is to address the need for statutory surplus for GHMSI (including its subsidiaries) and to quantify an optimal surplus target range within which we believe GHMSI should strive to operate, under normal circumstances.

In order to develop an optimal surplus target range, we used actuarial projection techniques. We characterize the output of this form of analysis as "pro forma projections." They show the financial results that could be expected if actual operations were to occur exactly as stated and assumed, with no deviations. These pro forma projections are intended to serve as demonstrations of the impact of the stated assumptions within a scenario, relative to alternative assumptions and scenarios, so as to enable an understanding of the actuarial implications of the scenario assumptions. The pro forma projections are not intended to be predictions or forecasts of what the future will hold as actual circumstances emerge and contingencies arise. Actual future financial outcomes will undoubtedly vary, potentially in a material way, from any particular pro forma projection scenario.

This report has been prepared for the exclusive use of GHMSI, to help its management and Board of Directors formulate intermediate and long-term financial and business plans for the company. The material contained in it will not necessarily apply to any other situation or set of circumstances, and may not be appropriate for other than its stated purpose. To conduct our analysis, we relied on a variety of confidential and proprietary data and information provided by GHMSI staff. We did not audit the material we received, although we did review the data for

general reasonableness. However, if there are any substantial inaccuracies in the data, the results of our analysis may likewise be substantially inaccurate.

We understand that GHMSI may wish to share this report with the District of Columbia Department of Insurance, Securities and Banking and others. We hereby grant permission, so long as the entire report is provided. Milliman does not intend to benefit any third party either through this analysis or by granting permission for this report to be shared with other parties.

Chart 1

GHMSI Distribution of Business

2004 Premium and Premium Equivalents (GAAP Basis)

(millions)

	Non-FEP Insured	FEP[1]	ASC	Total
GHMSI	$869.6	$1,132.7	$799.9	$2,802.2
BlueChoice	$1,077.4	--	--	$1,077.4
GHMSI + 40% of BlueChoice	$1,300.6	$1,132.7	$799.9	$3,233.2

[1] Includes only GHMSI's participation in the BCBSA Federal Employee Program. HMO and other offerings within the Federal Employees Health Benefits Program are included as non-FEP insured.

B. Approach Taken by Milliman

As indicated above, the purposes of this report are to address the need for statutory surplus for GHMSI, and to quantify an optimal surplus target range within which we believe GHMSI should strive to operate under normal circumstances. The need for surplus is addressed specifically in Section II, and throughout the remainder of this report.

The approach to developing an optimal target surplus range for GHMSI is documented in Sections III-VI. It begins in Section III with a discussion of minimum surplus requirements, which create a floor for our analysis and development.

Section IV presents historical underwriting results for the industry as a whole, for GHMSI, and for a comparison set of Blue Cross/Blue Shield (BCBS) Plans. This data is used to judge the reasonableness of results derived from the analysis which follows. Section V addresses specific risks and contingencies, enabling their quantification and combination through Monte Carlo simulation. The result is an actuarial approach to making provision for loss periods based on risk assessment, which are then compared to actual historical results. This approach leads to a range of potential multi-year operating loss levels, against which GHMSI's surplus must provide protection for the company. Section VI then describes application of the potential loss levels developed in the preceding section using pro forma financial projections, in order to determine the amount of surplus needed by GHMSI to operate under normal circumstances as a viable company.

Section VII discusses briefly what we believe to be the key principles in managing within a recommended optimal range of surplus.

II. SURPLUS NEEDS AND USES

A. Business Environment

Continued change has been, and will continue to be, a predominant characteristic of the U.S. health care industry at large. This is driven, at least in part, by the fact that today in most areas of the country the health insurance market is increasingly dominated by aggressive and highly competitive regional and national managed care companies. In order to remain viable, a health insurer must anticipate and respond to this ever-changing competitive environment. Doing so requires substantial capital resources and surplus.

The business environment of tomorrow is certain to differ markedly from that of today. Some directional changes – such as continued advances in technology and competitive pressures from consolidation and scale of operations – can be generally anticipated. Other fundamental environmental changes simply cannot be known at this time. The continued viability of a company like GHMSI will require that it have the foresight, savvy, and resources to both anticipate and respond effectively to such changes.

Competitor Consolidation and Scale. Perhaps the most noticeable change in the health care industry over the past decade has been the unprecedented consolidation of even sizeable insurers and managed care plans into large and jumbo-sized companies. Most commercial life insurance carriers – stock and mutual companies – have withdrawn from the health insurance market, selling their sizeable blocks of business to the few remaining managed care companies. Likewise, a large proportion of HMOs have gone through mergers or acquisitions, producing an ever smaller number of increasingly larger surviving entities which operate regionally and nationally. Significant consolidation is also occurring within the Blue Cross and Blue Shield system.

The capital resources of these new competitors tend to be enormous. Such resources enable them to invest in new, leading technologies and to aggressively build and contract with provider networks. It gives them negotiating clout, risk-spreading capacity, and funding for market

acquisition. A large scale of operations also enables them to spread overhead costs more effectively.

Role of Technology. Virtually every segment of our economy is being bombarded with technological change. Not only is every aspect of the way business operates changing, but what businesses do as a result of new technology-driven capabilities continually changes as well.

The inherent natures of medical delivery and of health care financing place a high degree of importance on communication, data gathering and processing, testing and analysis, and information feedback among these activities. Health insurers must stay near the forefront in terms of the effective integration of communication, information processing, and computing technology. This requires capital investment, which has become virtually continuous with the rapid development and obsolescence of technology.

Care Management Evolution. Care management strategies and programs come in a number of forms today, but virtually all health care coverage is "managed" in some manner. This was initiated, at least in part, by the public acceptance of and dramatic growth in HMOs during the past 10-20 years. Today, care management can be considered more appropriately in terms of the nature, form, and extent of the clinical and financial management involved in whatever health care products are found in the local market, rather than in terms of the enrollment in any particular product type.

The clinical and financial management of care has not only expanded, it has evolved. This has been driven, at least in part, by a blend of consumer and provider pressures and advances in information technology. As technology has enabled the detailed analysis of financial and member information, the industry has begun to manage and evaluate the delivery of medical services against protocols and benchmarks derived from a combination of cost and quality factors. This new direction for the industry is also being driven by factors such as the rapid introduction of new drugs and therapies, including the use of member direct marketing strategies.

Simply keeping pace with these kinds of changes, let alone playing a leadership role in the market, is a daunting challenge for every major health insurer. Core competence, corporate

capabilities, and support systems in the clinical and financial management of care must be re-established and overhauled every few years. This requires the maintenance of strong business and professional leadership, a depth and breadth of clinical management resources, and astute financial thinking. It also requires ongoing capital investment, which at times may be substantial.

Competitive Market, Small Underwriting Margins. With the exception of certain brief periods and certain atypical geographic areas, underwriting margins (i.e., the excess of premium over claims and expenses) for health insurers generally have been remarkably low over time. A notable exception historically was the early 1990s, when certain aggressive, publicly traded managed care companies achieved substantial gains for a number of consecutive years (at least in part through favorable risk selection). Even then, the primary source of sizeable profit growth for many publicly traded HMOs was through mergers and acquisitions.

The health care coverage market continues overall to be price sensitive. From time-to-time and from place-to-place, price and underwriting margin pressures ease somewhat for brief periods. However, the pervasive ongoing outlook is for strong competition, enabling only modest levels of sustainable underwriting margins. Two direct implications are that (i) a pattern of consistent gains year-after-year for any extended period is rarely achieved without loss years interspersed throughout, even for a well run insurer, and (ii) full recovery from a period of substantial and prolonged losses is very difficult without radical actions. These point to the importance of financial "staying power" – sufficient surplus or other sources of equity capital to recover from cyclical downturns and unexpected adversities.

Competing in the Market as a Not-For-Profit Company. GHMSI is a not-for-profit health insurer offering health care products in its licensed service areas, directly under the CareFirst BlueCross BlueShield and CareFirst BlueChoice names. The corporate mission of GHMSI, as stated earlier, is to "provide health benefit services of value to customers across the region. . .". To fulfill this mission, GHMSI must compete successfully in the market against all competitors who elect to enter, whenever they choose to do so. It must not only sell its health care coverage products to willing customers, but it must do so on a basis which can be sustained indefinitely.

A significant requirement of meeting this mission and competing effectively is to maintain sufficient equity capital resources. GHMSI faces the same insuring and business needs for equity capital as its major competitors – for-profit or not-for-profit. Since it is not owned by shareholders, it has no access to equity capital other than its surplus. This necessitates both the maintenance of a strong surplus level, and the cautious management of that surplus. Failure to do so would jeopardize the entire foundation of GHMSI – including its future viability, and therefore its ability to reliably and sustainably provide access to affordable and quality health care.

Access to Capital. Historically, most health insurers were mutual or not-for-profit companies. The surplus held by such companies comes largely from accumulated underwriting gains and investment income. Today, most of the major national health insurers and managed care companies, as well as many regional ones, are publicly traded stock companies. This affords them long-term access to equity capital markets for risk-taking, operational development, or growth needs – in addition to their accumulated underwriting gains and investment income (i.e., in addition to their surplus).

The market value of publicly traded health insurers and managed care companies is very large relative to the surplus of such companies accumulated from operations. The excess of their market value over tangible net worth (a rough proxy for surplus) represents additional equity capital value to which the company can gain access for various purposes, if necessary. Clearly, this is a major financial advantage which these for-profit companies hold in access to equity capital.

Catastrophic Risks. Virtually all types of insuring entities in today's world face the risk of certain catastrophic events occurring. Such events, by definition, have a low probability of occurring and very severe adverse financial consequences. For health insurers such as GHMSI, potential catastrophic events range from the impact associated with terrorism, to epidemics or pandemics, to natural or other disasters, to extraordinarily high damage awards from major class action or other litigation. The fact that GHMSI's service area is the nation's capital clearly magnifies the importance of providing for the terrorism risk.

Because of the low probability of particular catastrophic events occurring, and their changing prospects and nature over time, it is not unexpected that a company would not have actually experienced an occurrence of the sort of catastrophic event for which it is presently at risk. Failure of the insurer to provide protection against such risks, however, means that the company is exposed to ruin or incapacity from such an event. More importantly, it means that the company does not maintain the resources to protect its subscribers and members, its providers, and its vendors against catastrophic loss should such an event occur. Prudence regarding fundamental soundness and assuring ongoing viability dictates a meaningful level of surplus protection against such events.

B. Surplus and Risk-Taking Capital Needs

The surplus for a Plan like GHMSI is the equity capital (excess of assets over liabilities) available to ensure the future viability of the company. Ensuring future viability recognizes (i) the possibility of adverse financial results and of unexpected events occurring, (ii) the periodic need to provide for extraordinary health care development costs or investments in support of the company's operations, and (iii) the capacity necessary to enable reasonable growth.

The overall surplus needs of a not-for-profit Blue Cross Blue Shield Plan include all of these considerations – risk capital, funding of health care development costs, and growth capital. All of GHMSI's risk-taking capital needs created by the varying risk characteristics of its business and all other immediate needs for equity capital must be met by the company's surplus.

To ensure the future viability of a health insurer requires recognition of all of the kinds of adverse financial results and unexpected events or circumstances that might occur. Some of these adverse results and unexpected occurrences are directly related to the types of insurance risk assumed by the company through the normal course of conducting its business. Other types of risk pertain more generally to various aspects of the operation of the company – including fluctuations in expense levels, fluctuations in interest rates and asset values, and various business risks. Finally, risk is associated with a variety of catastrophic events that might occur, and that a company like GHMSI must be prepared to withstand.

Broadly speaking, these risks represent the adverse cyclical results and the contingencies or unexpected occurrences faced by a health insurer in the day-to-day conduct of its business. The term risk capital can be used to refer to the level of surplus needed by the company to prudently manage and absorb these risks.

Maintaining an adequate level of risk capital is necessary for a health insurer in order to ensure that provision is made for all of these risks assumed by the company. Without adequate risk-taking capital of its own, a health insurer is faced with a small number of potential alternatives.

They may include:

- permanent equity capital infusion from an external source (not generally available to a not-for-profit insurer, other than possibly as part of a merger or acquisition).

- temporary equity capital infusion from an external source, such as a surplus note (which may or may not be available or affordable, and which usually has significant strings attached, typically involving loss of some or all of the control of the Board of Directors).

- transfer of risk to another entity with adequate risk capital (which may or may not exist or be feasible), and the loss of control that might accompany such a shift.

- compensation for inadequate surplus by immediately charging extraordinarily high premium rates for the company's products (difficult, if not impossible, in a competitive and closely regulated market), to eliminate as much as possible the risk of future losses.

- compensation for inadequate surplus by immediately taking inordinately deep cost cutting actions, to mitigate as much as possible the risk of future losses.

Some of these potential alternatives may not be feasible, and none of them is likely to come without serious ramifications. Specifically, extraordinarily high premium rates or inordinately deep cost cutting actions cannot be made in a vacuum; they may have severely adverse effects such as significant enrollment losses due to uncompetitive pricing or poor customer service.

C. Use of Capital for Development and Growth

An additional need for surplus is the funding of health care development costs or operational capacity (infrastructure) investments. These might be improvements or innovations such as new product development; periodic revamping of delivery system networks, reimbursement structures, or management of utilization; or development or acquisition of new communications, information, or processing systems. Such investments must be made periodically, and the corresponding costs incurred, if the company is to be successful in the health insurance business. Often such capital expenditures do not produce hard assets that can be admitted on the company's statutory balance sheet. This means that such expenditures generally must be absorbed immediately out of surplus.

Growth and expansion is a major goal for most successful business entities operating in a competitive market. This requires the presence of market opportunity, plus the resources necessary to pursue growth from such opportunities. Growth can be achieved directly through day-to-day competition in existing markets, through entry into relatively new markets, or through long-term affiliation in existing or new market areas. Examples at this particular time include new consumer oriented product demands and opportunities, and expansion of insured products to the senior market under Medicare reform.

Developing and absorbing growth requires growth capital to fund developmental costs, to cover the initial losses resulting from the need to be price-competitive at the outset in order to become established, to absorb any losses resulting from setbacks or inexperience in the new market, and to withstand the short-term surplus strain (i.e., growth in enrollment or volume of business in force, without corresponding immediate growth in surplus). Obviously, a prerequisite for financially sound growth for a not-for-profit health insurer is strong surplus.

III. MINIMUM AND OPTIMAL SURPLUS REQUIREMENTS

A. Background

In the wake of various insolvencies (and near insolvencies) around the country in the not-too-distant past, attention has been directed at minimum standards for the surplus of managed care organizations generally, and of Blue Cross and Blue Shield Plans specifically. Historically, individual states had done little to effectively monitor the financial condition of such organizations and to detect organizations that were becoming troubled financially, prior to the immediate threat of insolvency. Notwithstanding any differences of opinion among parties with regard to appropriate thresholds for minimum surplus levels, the common theme of this growing industry and regulatory attention has been ensuring adequate minimum levels of surplus to protect against organizational insolvency, thereby protecting the insured members from loss.

For a number of years, the Blue Cross and Blue Shield Association (BCBSA) has required that all BCBS Plans calculate Plan-specific measures related to solvency, and that a Plan's surplus not fall below certain thresholds relative to such measures. This process has been part of the BCBSA membership requirements; and compliance has been necessary in order to maintain good standing and retain use of the trademark.

Over time, the Association's minimum requirements became formalized in the form of Capital Benchmark formulas and calculated values. With the development and adoption of Risk Based Capital (RBC) formulas and standards for managed care organizations by the National Association of Insurance Commissioners (NAIC), BCBSA likewise adopted RBC as the foundation for its own membership requirements (effective late 1999).

The RBC mechanism is now widely recognized as a standardized approach to developing minimum solvency indicators. Calculated RBC values are required for inclusion in the NAIC annual financial statements filed by health insurers; and most States (including the District of Columbia, Maryland and Virginia) have adopted the NAIC's RBC-based compliance standards to help assure that health plans meet minimum requirements for solvency. The RBC methodology provides for the calculation, by detailed formula, of a benchmark or reference

value, multiples of which are used to establish standards for external monitoring and intervention.

The use of RBC as a methodology, and of the values calculated from it, obviously have significant limitations. The RBC formula is a structured and mechanical approach to trying to capture and quantify the risk characteristics for a wide range of different types of companies operating in a variety of environments, with changing circumstances over time. As a structured and mechanical formula that attempts to address complex matters, it necessarily contains elements that represent broad simplifications. Nonetheless, it serves a highly useful purpose in identifying companies whose surplus levels may be precarious, and therefore warrant careful scrutiny. Such scrutiny cannot be applied in a meaningful way, however, without a detailed examination of company conditions and circumstances by knowledgeable professionals experienced in the field. Because of these factors, the principal and most important role of calculated RBC values is to serve as a screening or flagging mechanism, to indicate potentially serious situations that may warrant undertaking more thorough and comprehensive evaluations.

The RBC formula was designed and developed for identifying companies that may be facing the prospect of impending insolvency. At such a point, all efforts (internal and external) should be directed at stabilization and financial rehabilitation, in order to prevent claims payment default or cessation of business. The RBC formula does not address needs associated with ongoing business viability and success. In developing an optimal range for a company's surplus, as opposed to a minimum threshold for solvency monitoring, surplus needs for matters not contemplated in the RBC formula must be considered and addressed.

B. Minimum Capital Thresholds

The use of Risk Based Capital (RBC) measurements is intended to provide a systematic approach to developing benchmarks for individual companies for use in monitoring minimum levels of statutory surplus needed for protection from insolvency. As indicated above, the RBC formula adopted by the NAIC for managed care organizations (including Blue Cross and Blue Shield Plans) provides an objectively calculated reference value that can be used for this purpose. Although far from perfect, it does recognize a company's size, structure, and volume of retained risk. It also incorporates elements that address underwriting or insurance risk, asset risk and various forms of business risk.

The key reference value developed by the RBC formula is termed the "Authorized Control Level" (we refer to this as RBC-ACL). Multiples of the RBC-ACL (e.g., 900% of RBC-ACL) can then be used to establish thresholds, with higher multiples producing an increased likelihood of security against insolvency.

This use of consistently calculated reference values, along with various multiples for different purposes or degrees of concern and security, provides a useful tool for State regulators and industry organizations (such as BCBSA). Key RBC threshold levels applicable to GHMSI are described below[1]. Also indicated are the actions associated with these key RBC-based levels, along with equivalent measurements of them in terms of percentages of annual premium.

Consistent with an overall operation perspective, we have analyzed the operating characteristics of GHMSI and its subsidiaries as an overall, combined entity. This is not unlike viewing the respective segments of insurance business within GHMSI and its subsidiaries as if they were lines of business within a single insuring entity.

---

[1] All surplus and related financial items addressed in this report are on a statutory basis, unless stated otherwise. Further, consideration of historical operating results and surplus requirements is on a "combined" basis across the operation, reflecting GHMSI's proportionate share of BlueChoice and other subsidiaries.

BCBSA Minimum RBC-Based Thresholds. BCBSA maintains certain minimum financial requirements that Blue Cross and Blue Shield Plans must meet, as part of the membership standards for use of the trademark. Two key thresholds involving surplus are based on the RBC formula, and are expressed generally as follows:

BCBSA Threshold	Percent of RBC-ACL
Early Warning Monitoring Level	375%
Loss of Trademark Level	200%

District of Columbia Minimum RBC Requirements. The District of Columbia has adopted statutory minimum requirements for the surplus levels of commercial health insurance companies, nonprofit hospital service corporations, and HMOs domiciled in the State. These minimum requirements are expressed in terms of a company's RBC-ACL level, and are generally consistent with the corresponding standards recommended by the NAIC and adopted by most states around the country. Upon triggering the 200% of RBC-ACL threshold, a domestic insurer must formally notify the District Insurance Commissioner of the corrective actions it plans to take. Direct regulatory interventions are triggered if surplus drops to even lower percentage levels.

Implications of RBC Minimum Requirements. As indicated above, 200% of RBC-ACL is the threshold for mandatory corrective action plan notification by domestic insurers to the District Insurance Commissioner. The 200% of RBC-ACL level is also the threshold at which a Blue Cross and Blue Shield Plan loses the use of the trademark. Stated in terms that may be more intuitive, 200% of RBC-ACL equates to approximately 4.5% of annual risk premium for GHMSI, or about 2½ weeks' worth.

The loss of trademark due to inadequate financial strength would likely be a catastrophic event: if the trademark were lost the remaining organization, and more importantly its District of Columbia, Virginia and Maryland subscribers, would lose the breadth and strength of the Blues' system. Product recognition, favorable reimbursement rates out-of-area, and current levels of service would be forfeited. Certain other financial opportunities would also be lost as a result, such as the ability to offer benefits to certain large national accounts and the Federal Employees Health Benefits Program and the access fees for offering GHMSI's network to other BCBS Plans. Furthermore, removal of the trademark due to financial weakness would open the door to the entry of a replacement BCBS Plan.

C. Minimum Thresholds vs. Optimal Range

The BCBSA risk capital thresholds indicated above are directed at minimum levels – specifically, early warning monitoring, and withdrawal of the trademark. Where states or other jurisdictions have adopted the RBC-based standard, the application is likewise directed at minimum solvency levels. The focus of oversight and regulatory bodies on adequate minimum surplus levels is understandable and appropriate. These bodies bear responsibility for monitoring the continuing solvency of the health plans under their jurisdiction, and for taking actions before impending insolvency and closure. They had been widely criticized in the past for not maintaining adequate minimum surplus standards or sufficient monitoring of financial strength, and for not taking timely and forceful action with regard to health plans with poor performance.

The proper focus of a financially healthy non-profit Blue Cross Blue Shield Plan, however, is on achieving and maintaining an optimal ongoing surplus level. Such a level is intended to (i) ensure the continuing viability of the company, (ii) inspire warranted confidence by group customers, subscribers and providers, (iii) enable the development of competitive yet adequate premium rates for customers (rather than needing to be excessively high, because of inadequate surplus to back them), and (iv) provide funding for long-term development costs and investments. Such a focus by company management is prudent and appropriate.

An optimal ongoing operating range for a company's surplus level clearly will be higher than the minimum level used by regulators and oversight bodies as a benchmark for warning signals against insolvency and necessary intervention. Prudent company management will focus not only on an appropriate range for its ongoing and long-term needs, but also on the avoidance of approaching levels that may trigger special external scrutiny or intervention, or that may create subscriber, provider, or public concern. Such a range, therefore, must be (i) high enough to avoid having the company's surplus falling to a level where external scrutiny is initiated, and (ii) wide enough to absorb the rises and declines in relative surplus levels that occur during the normal course of business over an extended period of time.

An upper level for surplus, by contrast, would represent the point at which additional accumulation of funds would not contribute meaningfully to furthering the goal of ensuring the future viability of the company or protecting its members. By definition, exceeding such a level would not add to the well being of the company.

D. Goals for Optimal Surplus Target Range

The establishment of an optimal target range for its surplus is one of the more important financial policy issues GHMSI must address. It has fiduciary, business management, and strategic implications.

The goals for GHMSI in determining a target surplus range should begin, we believe, with the BCBSA thresholds. Specifically, we recommend that they be established to achieve the following goals:

- ***Early Warning Monitoring Threshold Avoidance*** – Provide a high likelihood that the overall surplus level for GHMSI, as a combined operation, will remain above the BCBSA Early Warning Monitoring threshold level, even after a particularly adverse period of multi-year underwriting losses, thereby enabling ongoing viability;

- ***Loss of Trademark Avoidance*** – Assure with virtual certainty that surplus will remain above the BCBSA Loss of Trademark threshold level for the operation, even if a severely adverse period of multi-year underwriting losses were experienced, or if back-to-back loss cycles were to occur without adequate recovery between them, thereby avoiding failure; and

- ***Adequate Provision for Development and Growth*** – Provide equity capital to enable periodic investments in technology, product development, building or acquisition of complementary business capacity, and growth in business in force without jeopardizing the company's risk capital position.

This statement of goals for the GHMSI operation is based, as indicated previously, on the perspective of GHMSI as a combined operation, including its subsidiaries. The statutory surplus reported by GHMSI, as parent, is the surplus for the entire operation. Our understanding is that such surplus is effectively available for the mutual protection of all entities within the GHMSI operation, including GHMSI's share of BlueChoice.

Historically, the underwriting loss cycles for GHMSI (the parent company only) and for the GHMSI operation on a combined basis have been of similar timing and magnitudes (see Section IV). This indicates to us that quantifying GHMSI's surplus needs on a combined basis is appropriate. If circumstances should change materially in the future or new products become a dramatically larger part of GHMSI's business operations, this approach may need to be reconsidered.

IV. BUSINESS CYCLES

A. Underwriting Cycles in the Health Insurance Industry

Nature of the Business. A basic characteristic of health insurance is that the ultimate cost to the insurer of the services which will be used by the purchaser under the coverage being sold is not known at the time of sale. The insurer does not know the volume and scope of the benefits that will be used; and the actual cost of the benefits also varies depending on the provider that renders the service. As a result, the actual costs cannot be fully determined until some time after the coverage period has expired, when all claims have been submitted and processed. In providing coverage, a health insurer bears the financial risk in the event that actual costs exceed the expected costs reflected in the premiums being charged.

Underwriting gains and losses are a result of the differences between premium revenue and expenses. Premium rates are established by the insurer based on assumptions as to future claim cost levels (cost of care), administrative and other expenses, and investment income, with allowances for profit and/or contributions to surplus. The most important of these components is the claim cost level, which often constitutes 80%-90% of the total premium. Although estimation and uncertainty are present for all of the premium components, uncertainty as to future claim cost levels creates the most substantial risk for the insurer.

Under normal circumstances, estimates of future claim cost levels are projected from historical claims experience, with consideration as to changes in benefits, likely rates of change for factors such as price and utilization trends, changes in health care practices and technology, impact of care management initiatives, or changes in the characteristics of the covered population. Despite continuous efforts by most health insurers to contain or stabilize these rates of change, their impact cannot be predicted with certainty.

The period of time required for medical claims to be reported, processed and adjudicated is approximately two months for typical health insurance coverages. Because of the resulting delays in measuring historical claims experience and because premium rates must be determined many months in advance of their applicable rating periods, claims must often be projected for a

period of 21 to 24 months, and even then using imperfect historical claims data. Health care costs in recent years have frequently increased at annual rates of 10% to 15%, or even higher. Therefore, the uncertainty in projected aggregate claim cost levels for even a large block of mature business can be substantial over a multi-year period of time.

When variances do occur, their timely recognition is crucial. By the time financial reports have been compiled to show underwriting results for the previous year, premium income for the current year has been largely determined through twelve-month rate guarantees that are already in place. Corrective actions taken in response to these financial reports are unlikely to yield results until the subsequent year, because of the lead time needed to implement rate changes and the development time required for cost control initiatives. As a consequence of this inherent nature of health insurance operations, multi-year periods of unexpected or unplanned gains or losses commonly arise. This tends to produce cyclical underwriting results for health insurance business.

Historical Underwriting Cycles. Underwriting results of health insurers have been characterized historically by marked underwriting cycles, resulting in part from such delays in response time. Periods of industry-wide underwriting gains have been followed by periods of losses, and then again by periods of gains.

While specific patterns have varied by company and by market segment or region, marketwide results historically exhibited a consistent six-year underwriting cycle – three years of gains followed by three years of losses – throughout the twenty-five year period from the mid-1960s to the end of the 1980s. This is shown in Chart 2, which summarizes aggregate annual underwriting gain/(loss) for all Blue Cross and Blue Shield Plans. Note that these results do not reflect investment income, nor do they reflect Federal income taxes. Comparable data available for commercial insurance companies through 1993 exhibits a similar pattern.

Underwriting cycles in the industry have been driven to a significant extent by changes in claim trends, which historically have also followed a cyclical pattern. Chart 2 also shows the pattern of health care cost trends, as represented by the Health Cost Index™ maintained by Milliman. This measure of health care cost trends reflects nationwide changes in non-Medicare health costs,

exclusive of factors affecting specific carriers such as adverse selection, shifts among product types, deductible leveraging, and changes in comparative discounts; as a result, it tends to understate the trend levels that would have been experienced by a particular carrier in one market or another. Nevertheless, it is apparent that underwriting results and health care trends have been inversely correlated.

This correlation has occurred because carrier rating practices tend to reflect past claims experience projected at recent trend levels. When claim trends increase unexpectedly, underwriting losses materialize because carrier premium rate levels have not anticipated the higher trends. Once recognized, the higher trends are considered in the calculation of future premiums, which leads to higher premium rate increases by carriers, often generating underwriting gains once trends begin to decline.

The delay involved in carriers' abilities to recognize trend and other rating parameter changes and build them into future premium rates contributes to cyclical underwriting results. Another factor, highly related, is that when recent underwriting results have been favorable the marketplace often begins to reflect optimism, which translates into relatively more aggressive pricing by competitors; similarly, after a period of losses carriers generally become more pessimistic, which translates into more conservative pricing. Further, carrier development costs and/or losses associated with the introduction of new products has compounded these results.

While underwriting cycles have long been recognized by health insurers, predicting their course has never been a simple matter – particularly because the precise timing and magnitude of such cycles tend to vary by carrier, region, and market segment. Further, competitive pressures limit any individual carrier's ability to increase rates significantly faster than competitors.

As shown in Chart 2, the cyclical pattern of the Blue Cross and Blue Shield underwriting results for the system as a whole has changed somewhat in recent years. Beginning in 1989 these results exhibit an extended period of six years of moderate underwriting gains overall, followed by an extended period of moderate losses in the subsequent years, then with gains in the most recent years. The experience of many HMOs was similar during this period. The extended duration of these phases represents a departure from previous cycles.

There are a number of possible explanations for this recent change in the pattern of underwriting results. Foremost was a moderation in health cost trends during the 1990's, resulting at least in part from low inflation coupled with aggressive carrier contracting with providers and significant expansion of managed care activities. In addition, many health plans had negotiated global fee schedules, and even provider risk-taking arrangements that provided some protection to the insurer against losses by transferring risk to providers. Many of these moderating factors have since diminished or disappeared, creating considerably more uncertainty and volatility for health insurers.

Considerations for the Future. A number of specific features of the health insurance business environment have changed over the course of the past 20-25 years, but the fundamental nature of the uncertainties that exist and the characteristics of the products that give rise to cyclical results still remain.

As noted in the previous section, and shown in Chart 2, the cyclical pattern of Blue Cross and Blue Shield underwriting results for the system as a whole has changed somewhat in recent years. Within the past several years, a number of specific changes have occurred that warrant consideration and ongoing attention with regard to the GHMSI's need for surplus. Principal among them are:

- Reduction in managed care constraints, affecting utilization levels and trends, without incorporation of other forms of compensating controls by providers.

- Intensity of provider price and contracting pressures, due at least in part to government program cost-shifting and provider consolidations.

- Resulting high and volatile medical cost per member trends.

- Underlying market instability produced by recent but continuing high medical cost trends and increased competitive pressure on ASC fees.

- Legislative and regulatory mandates and compliance requirements, necessitating ongoing operational investments.

- Escalating technology support and information demands.

- Growing market pressure for new group and individual products, with stronger financial incentives for members.

- Ongoing reform of Medicare, with the opportunities and uncertainties created for health plans.

- Growing catastrophic risks, from litigation and terrorism.

The first four of these environmental factors are all contributors to, or consequences of, high and volatile medical cost trends. Historically, uncertainty as to trends, and periodic intervals of high trend levels, has contributed directly to downward business cycles. In addition, trends create "surplus strain" – not unlike enrollment growth – where the absolute dollar level of required surplus grows significantly simply because the dollar volume of business has grown.

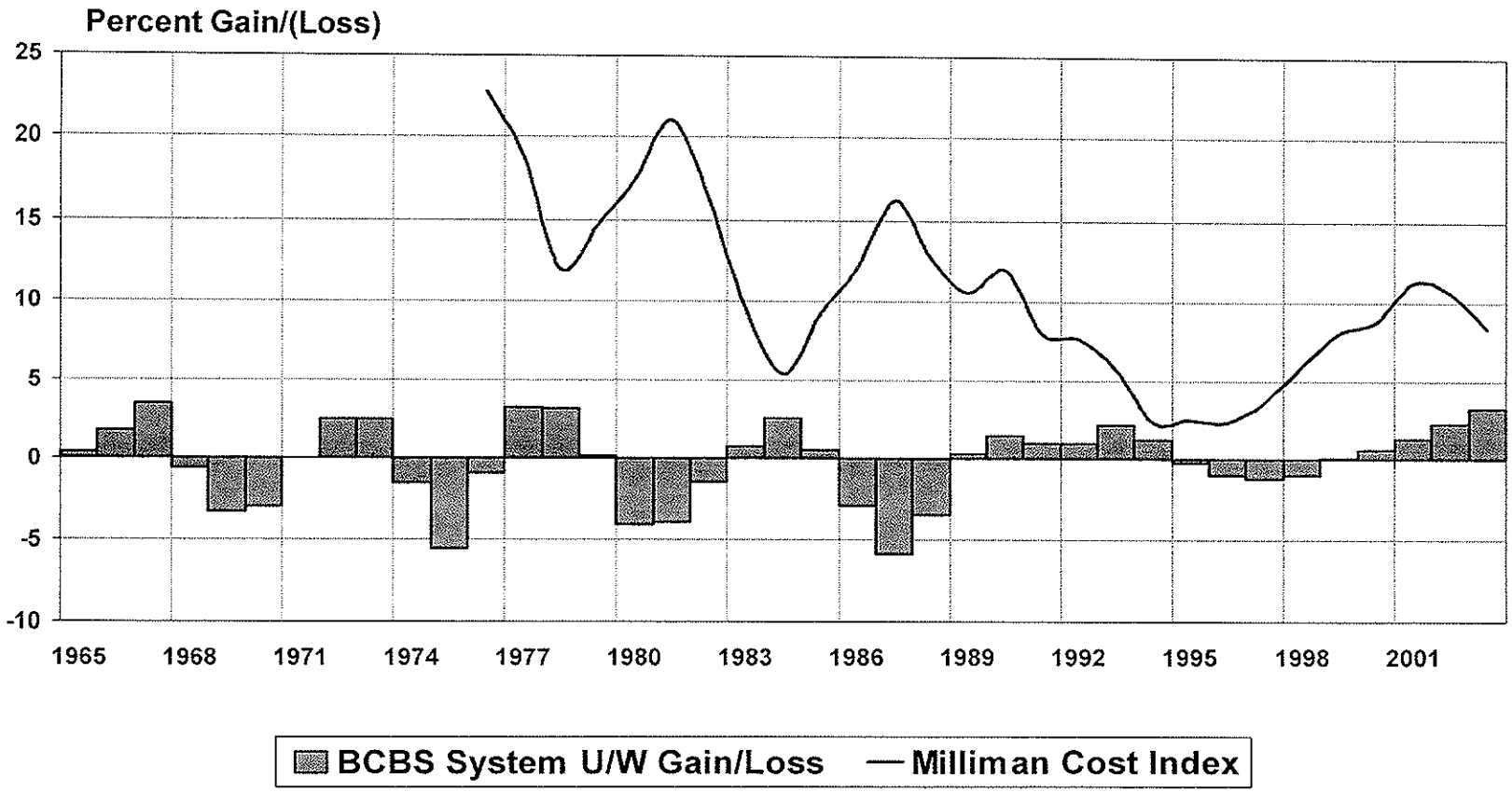
The remaining five environmental factors contribute to either significant investment needs or the risk of catastrophic loss. The pressure on capital investments for infrastructure and new products is likely to be ongoing; responses to market opportunities and pressures are essential; and the prospects for catastrophic events are heightened, in our judgment.

It is impossible to predict the form of future business cycles and whether the traditional six-year underwriting cycle will reappear at the industry-wide level, in either its previous form or some modified version. Nevertheless, the forces and factors at work serve to create cyclical financial results for a health insurer. As a result, multi-year cycles in financial results at the company level are virtually inevitable. Health insurers can take steps to minimize the impact of the adverse part of the cycles facing them, but cyclical results are heavily driven by the basic nature of health insurance and its guarantees, and by external competitive forces. Note that trend escalation and volatility, which has historically led to adverse cycles, continues. Such volatility

in trends is a reminder of the considerable uncertainties in the health insurance business, and historically has been a direct contributor to cyclical underwriting results.

Chart 2

Underwriting Cycles and Trends



B. Adverse Gain/(Loss) Cycles Experienced by GHMSI

GHMSI is subject to the same types of cyclical forces that drive the results for the industry overall. It is subject to uncertainty in trends, as well as to periodic cycles in the trend levels themselves. With its geographic market, and resulting concentration of business, GHMSI is sensitive to this sort of risk. Once losses have begun and have been measured, GHMSI then faces the same inherent delays in effecting corrections, due to the basic nature, advance notice of rates, and rate guarantees associated with health insurance. Chart 3 displays the underwriting gain/(loss) cycles experienced by GHMSI since 1980. As can be readily seen, there were three distinct adverse cycles during this period.

The GHMSI underwriting gain/(loss) cycles displayed in Chart 3 are shown as percentages of premium (as in Chart 2). They are shown, however, on two different bases – as percentages of total premium (insured including FEP plus ASC) and as percentages of non-FEP insured premium only. This distinction is important because the magnitudes, when expressed as percentages, differ significantly (expressed relative to total vs. non-FEP insured premium); and GHMSI's practice with respect to statutory reporting of premium changed from total to insured-only premium beginning in the early 1990s.

A careful comparison of the historical underwriting gains and losses for GHMSI (Chart 3) and for the industry as a whole (Chart 2) indicates that the timing of the favorable and adverse cycles was highly consistent for most of this historical period. In addition, the magnitudes of the cycles (based on the "Total Insured + ASC Premium Equivalents" loss measures for GHMSI) were generally consistent.

As mentioned previously, the separate reserves that are held on behalf of the FEP program significantly reduce the underwriting risk to GHMSI for this business. For this reason, unless stated otherwise, in the balance of this report we will express GHMSI underwriting losses as a percentage of non-FEP insured premium – i.e., as a percentage of the portion of the premium that carries what can be characterized as a typical health insurance underwriting risk.

Chart 4 summarizes the cumulative underwriting losses for the three adverse business cycles experienced by GHMSI since 1980, expressed as a percent of annual non-FEP insured premium. Underwriting gain/(loss) reflects the excess of premium over claims and expenses, prior to such items as investment income and Federal income taxes; it provides a direct measure of business performance, in terms of the adequacy of premium rates (relative to claims and administrative expenses). Underwriting losses are shown in Chart 4 for GHMSI as a separate operating company[2] and for the combined operation (i.e., GHMSI plus its subsidiaries). Expressed as percentages of non-FEP insured premium, the patterns of the operating company and the combined operation losses were similar in magnitude.

Each adverse or down cycle shown in Chart 4 was a distinct multi-year period of underwriting losses: 1980-82, 1986-88, and 1992-95. Separating these adverse underwriting loss cycles have been multi-year periods of gains, or upward business cycles. The three adverse cycles for the combined GHMSI operation produced cumulative underwriting losses that ranged from 12% to 45% of a year's non-FEP insured premium, averaging about 25%. The losses during 1986-88 were especially severe. We have considered the factors involved in this loss cycle and do not believe that the circumstances leading to losses of this magnitude are likely to occur today.

[2] For the period 1980 through 1984, losses represent the combined underwriting results of Group Hospitalization, Inc. and Medical Services of the District of Columbia, the predecessor organizations of GHMSI.

Chart 3

GHMSI Underwriting Gain/(Loss)

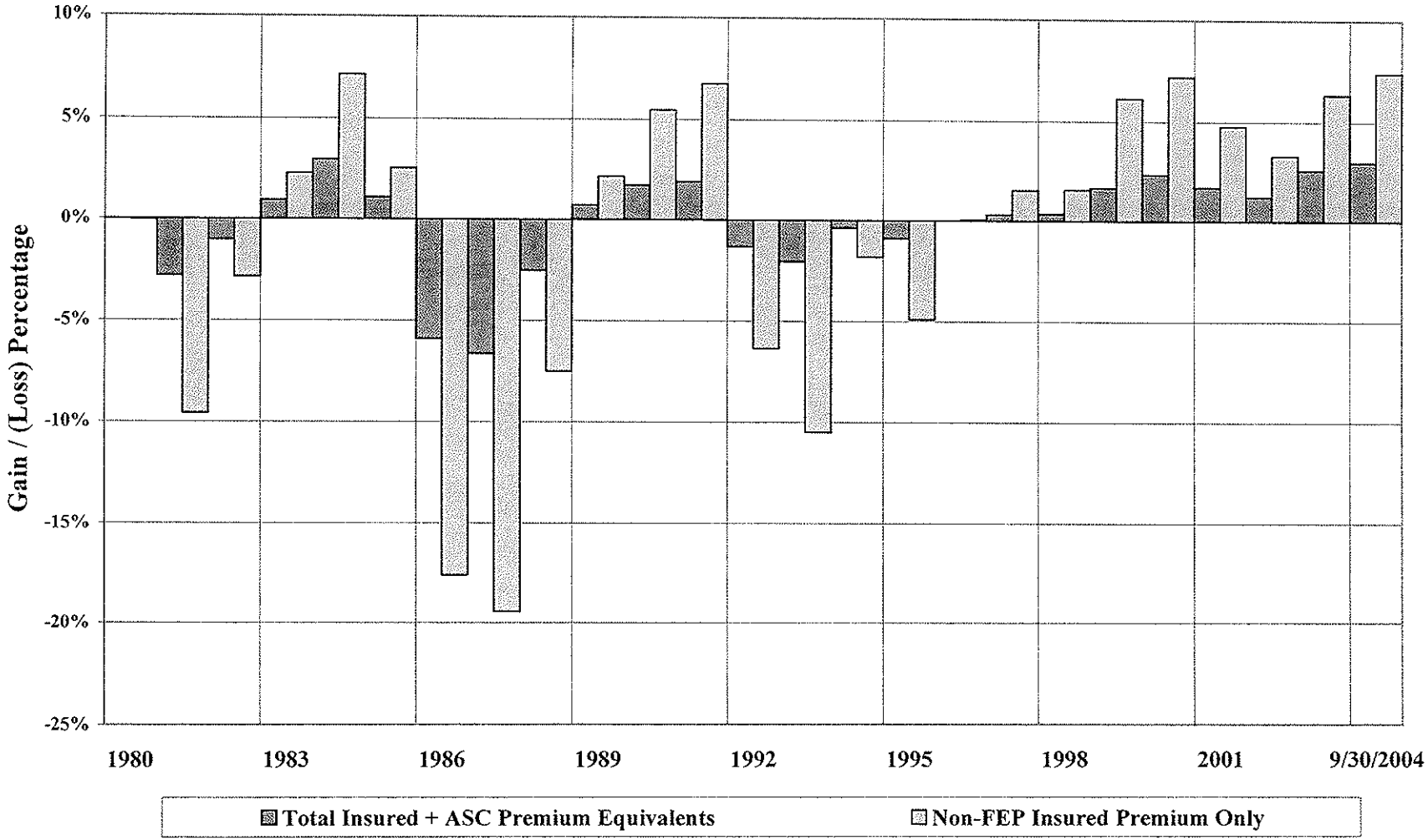


Chart 4

GHMSI Underwriting Loss Cycles[1]

Entity	Cumulative Underwriting Loss for Entire Cycle[2]		
	1980-82	1986-88	1992-95
GHMSI only	(12.5)%	(42.1)%	(30.7)%
Combined GHMSI operation	(12.5)	(44.5)	(23.6)

Notes:

(1) Gain/(loss) expressed as a percentage of estimated non-FEP insured annual premium. Excludes FEP and ASC premium equivalents for all years.

(2) Underwriting gain/(loss) is the excess of premium over claims and expenses, prior to investment income or income taxes. Cumulative percentages are the sum of annual loss percentages, over the loss cycle indicated.

C. Adverse Cycles for a Comparison Set of BCBS Plans

In order to take a closer look at adverse cycles experienced by individual companies within the health insurance industry, we compiled underwriting results as a percent of premium for the roughly one-half of all reporting BCBS Plans in the country that are closest in size to GHMSI, starting with 1980. The results are shown in Chart 5. Also shown on this chart are the results for GHMSI and the overall results for the industry as a whole. Although GHMSI has experienced its own unique circumstances, the similarities among Plans are apparent.

Note that in Chart 5, results for GHMSI are expressed as a percentage of total Insured (including FEP) plus ASC revenue, generally corresponding to the first set of data points in Chart 3. Similarly, it is our understanding that most of the Comparison Plan results are also reported on this basis, although there may be exceptions. The Comparison Plans do not have as significant a volume of FEP business as does GHMSI, however. It is important to note, in the context of this analysis, that a consequence of this form of reporting historically by most BCBS Plans is a systematically understated set of calculated loss cycle percentages. All of the rest of this analysis is expressed relative to non-FEP insured premium only.

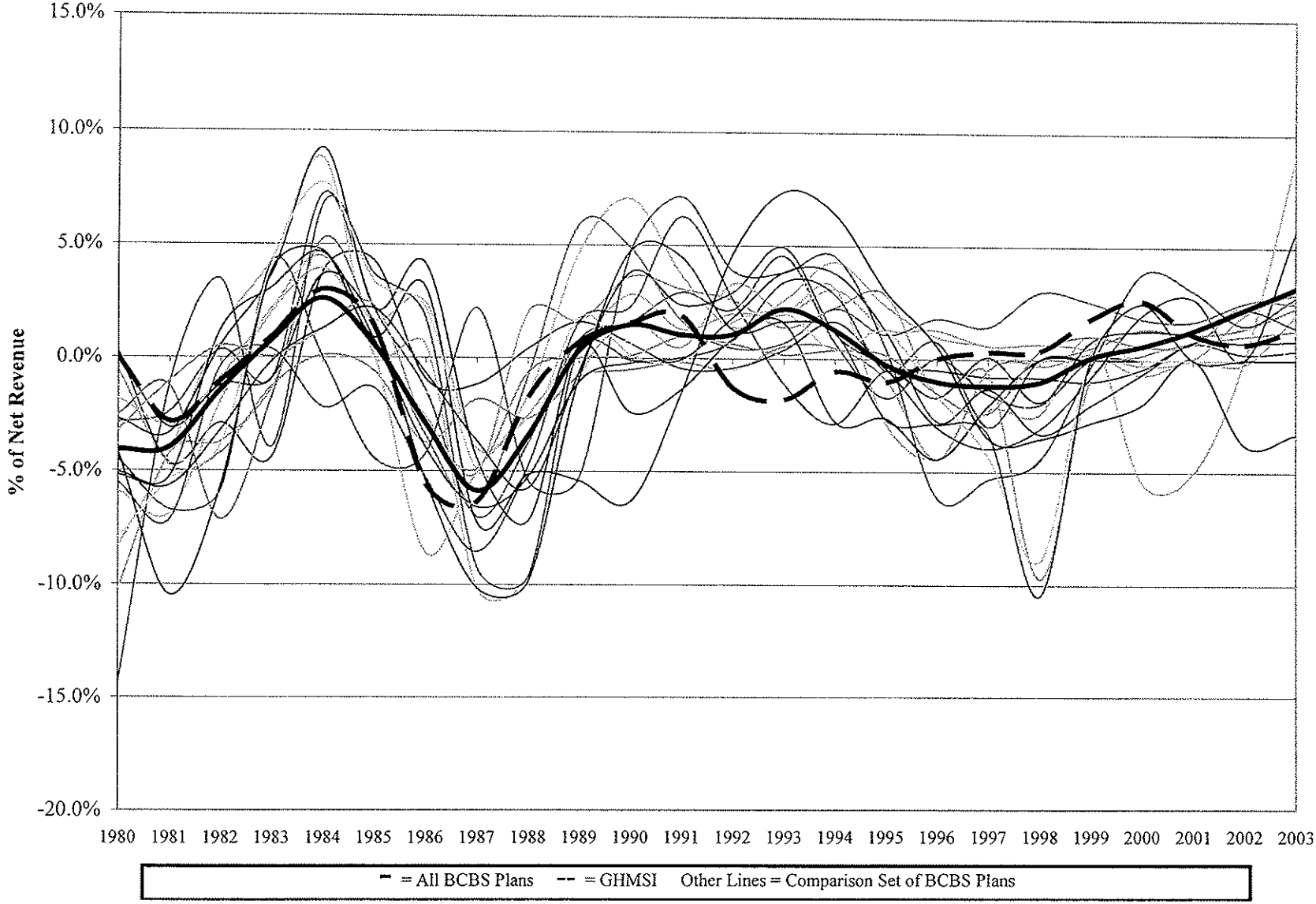
Among the 20 BCBS Plans in the Comparison Set, there were a total of 61 adverse cycles during the period 1980 – 2003. Most of these Plans had three adverse cycles during this period, the same as experienced by GHMSI. The following table summarizes the total loss percentages corresponding to the 90^{th}, 85^{th}, 80^{th} and 75^{th} percentiles of all 61 adverse cycles experienced by this set of BCBS Plans.

Adverse Cycle Results for Comparison Set of BCBS Plans	
Percentile of Adverse Cycles*	**Cumulative Underwriting Gain/(Loss) Percentage**
90th	(21)%
85th	(19)
80th	(18)
75th	(17)

* Percentile of all adverse cycles for the period 1980-2003, among the set of 61 adverse cycles for the BCBS Plans observed.

We have focused on these percentiles of the historical loss cycles for the Comparison Set of BCBS Plans in order to be able to quantify the magnitude of particularly or severely adverse cycles (discussed later in this report). We have not considered the magnitude for loss cycles beyond the 90th percentile for the Comparison Set in order to exclude those individual cycles for their respective companies across the industry that may have been truly outliers or materially anomalous for some reason.

Chart 5
Underwriting Gain/(Loss) for Selected BCBS Plans



V. RISKS AND CONTINGENCIES

By observing multi-year underwriting results for health insuring entities – GHMSI, other BCBS Plans, or the industry as a whole – one can measure the combined actual impact of the risks and contingencies, including expenditures for developmental activities, faced by such entities on their underwriting gains or losses. In the previous section of this report, we presented such results for historical periods beginning with 1980. This provides an empirical experience base for evaluating loss periods that carriers have had to withstand.

In this section of the report we take an actuarial approach to quantifying the risks and contingencies faced by GHMSI. This approach involves developing a range of possible values and associated probabilities for each of several major categories of risk and funding contingencies in GHMSI's operations, for which surplus requirements need to be recognized.

A. Major Risks and Contingencies

We have identified several major categories of risks and contingencies for which surplus is required. They can be summarized as follows:

Major Risk and Contingency Categories	
(1)	Rating adequacy and fluctuation
(2)	Unpaid claim liabilities and other estimates
(3)	Interest rate and portfolio asset value fluctuations
(4)	Overhead expense recovery risk
(5)	Other business risks, including ASC business
(6)	Catastrophic events, including litigation
(7)	Provision for unidentified development and growth

These categories generally follow the types of risk categories recognized in the RBC formula for managed care companies, but they further reflect components associated with ongoing viability (beyond solvency alone).

Rating Adequacy and Fluctuation. GHMSI's development of premium rate increases is intended to make provision for expected trends in claims cost and utilization, as well as changes in required retention components and other rating elements. Unfavorable variances for any of these factors require drawing on surplus.

GHMSI must establish reliable base period claims experience and determine trends in claims costs to use in developing its premium rates, which involve a high degree of uncertainty for its major segments of business, and even higher for its individual group customers or other rating pools. Data accuracy and appropriateness itself is an area of ongoing uncertainty. Projecting such data into the future then requires the use of suitable trend assumptions to project the future. An underlying driver affecting trends in claims costs is changes in secular cost and utilization levels and delivery patterns. Influencing and altering the impact of such secular forces are a wide array of carrier-specific factors – provider contracting methods and network performance, management of care activities, member usage of out-of-area providers for services, the carrier's ability to model and predict trends, and shifts in the exposure characteristics of the rating pools involved (including the prospect of adverse selection). In addition, carrier size and mix of business segments affect its trends, although even sizeable rating pools are subject to random fluctuations in experience.

Similarly, variations between actual and budgeted operating expenses occur during the normal course of business. GHMSI may be faced with an unbudgeted and yet necessary expenditure as a result of some unexpected event, or an unanticipated reduction in revenue to pay for operating expenses. Other rating factors and formula elements are involved as well in setting premium rates, all of which are subject to periodic mis-estimation or imbalance.

In general, a substantial lag exists for all health insurers between a change in underlying cost trends or other factors and their recognition. For example, an inherent delay is present in the

evaluation of claims incurred during an experience period due to lags in reporting claims, as discussed previously. Even after claims have been sufficiently developed, the initial manifestations of a trend change are generally so slight as to be obscured by other phenomena, such as seasonal fluctuations. Finally, when the effects become clearly perceptible, the actuary and Plan management are faced with the question as to whether they represent a change in the underlying trend or a temporary random fluctuation. Because evidence of trend change is generally not obvious before a substantial period of time has elapsed, a trend change can deplete surplus for several years.

In order to provide as much of a factual, experience-based foundation as possible, the usual practice in setting trends for premium rates is to rely heavily on the trends observed over at least the most recent twelve-month period. Use of a twelve-month or longer period results in more gradual changes in rates than would occur if short-term fluctuations were given full credibility. These data-based approaches are essential for evaluating past and current claims cost levels and trends; however, future outcomes are almost certain to involve additional and differing influences. Regardless of how trend assumptions may be developed, the result is an understatement of premium income if trends worsen and an overstatement if trends improve.

Since premium rates for a large portion of GHMSI's business are guaranteed for a twelve-month period, following a significant period of advance notice of premium rates to customers, immediate implementation of trend or other changes cannot be made. Thus, provision must be made in surplus for withstanding delays in implementing trend or other rating parameter changes. In addition, any regulatory requirements for approval of rates or rating factors may entail delays in implementation, or even reductions in requested rate levels. Again, surplus is essential to withstand these adversities.

Unpaid Claim Liabilities and Other Estimates. Since a health insurer's surplus is defined as the excess of assets over liabilities, any misstatement or risk of fluctuation in either of them has a corresponding impact on reported surplus. The potential for misstatement applies, in particular, to those actuarial or other items contained in the company's statutory insurance blank which require estimation.

The single most significant of GHMSI's actuarial items, in terms of the degree of estimation required, is its unpaid claim liabilities. To the extent that actual claim runoff differs from the liability estimate for unpaid claims, surplus will be correspondingly overstated or understated. Surplus is the insurer's means of providing protection against this eventuality.

Other actuarial items contained in GHMSI's balance sheet also require estimates, and therefore entail uncertainty. These include unpaid claims adjustment expense liability and other items.

Interest Rate and Portfolio Asset Value Fluctuations. Admitted assets related to non-affiliated companies and carried by GHMSI on its statutory balance sheets are reported on one of two bases. Nearly all fixed income securities are carried at adjusted book value, since virtually all are of high or highest quality. The remaining fixed income securities and all equity holdings in non-affiliated companies are carried at market value.

The asset portfolio of GHMSI is dominated by investment in interest-bearing instruments of various durations, spread among government, government agencies, mortgages and both public and private corporate placements. Overall, 87% of the investment portfolio (excluding equity interest in subsidiaries and affiliates) was invested in interest bearing instruments at the end of 2003. The remainder was invested in equities.

Since long-term assets-to-liability matching is not a significant investment management issue for a company with mostly short-term obligations like GHMSI, the primary matter of concern regarding surplus is fluctuation in market values of the asset portfolio. Beyond the possibility of default or impairment, the primary risk of an adverse fluctuation in interest-bearing securities is an unexpected rise in interest rates generally in the market along with the prospect of having to liquidate assets at that time. For equities, risk is present with regard to market conditions generally, and the performance of individual securities and instruments specifically.

Overhead Expense Recovery Risk. A contingency for which surplus provision needs to be made is an unanticipated fluctuation in the level of administrative expense recoveries. These

recoveries are made, under normal circumstances, through the administrative expense component of premium rates for insured business, fees paid by ASC groups, and fees or revenue otherwise generated from other business activities, (e.g., the FEP Service Center). An adverse fluctuation may occur, for example, because a large group terminates unexpectedly, with a resulting decrease in retention revenue or ASC fees. A corresponding decrease in expenses would not occur immediately, and expense ratios would therefore increase.

Other Business Risks, Including ASC Business. As with any business operation, GHMSI faces a host of business risks during the normal course of business. Most of these can be absorbed within the scale of GHMSI's overall operations.

A particular category of risk, which is perhaps unique to a health insurer such as GHMSI, is risk associated with ASC business. Unlike some self-funded business administered by a third party administrator for an employer using employer funds, GHMSI's ASC business entails a variety of risks for the insurer. These include default in reimbursement by an employer group, refusal to reimburse certain claims, defense of disputed claims, audit or litigation related to payment policies and practices, contractual disputes regarding discounts, etc. Such risks are not insignificant.

GHMSI has a substantial volume of ASC business, primarily involving larger employer groups. For 2004, the volume of self-funded business equated to approximately one-third of the volume of insured business written by the combined GHMSI operation.

Catastrophic Events, Including Litigation. As discussed earlier in this report, GHMSI faces the risk of catastrophic events occurring. Such events include extraordinary medical costs due to terrorism, epidemics or pandemics, and natural or public health disasters. They also include other events with a potentially extraordinary adverse financial impact – such as major fire or other business interruption disaster, or excessive damage awards from major class action or other litigation. As mentioned previously, the fact that GHMSI's service area is the nation's capital clearly magnifies the importance of providing for the terrorism risk.

A prudent insurer must provide protection against such risks, so that the company is not exposed to ruin or incapacity from such an event. This is necessary to remain a viable company. It is also necessary to protect the ability of GHMSI's members, providers, and vendors to safely rely on the company for the financial security that they believe they have contracted for or purchased. Prudence dictates that surplus for GHMSI be sufficient to withstand the risk created by such threats, to the maximum extent possible.

Provision for Unidentified Development and Growth. To maintain competitiveness and ongoing viability, as discussed previously, GHMSI must periodically make substantial investments in developmental activities and the acquisition of operational capabilities. These include such far ranging items as new product development, rebuilding of delivery networks, enhancement of care management capabilities, acquisition of new communications or information technology capacities, and adaptation of existing and integration of new administrative processes. Often these capital expenditures do not produce admitted assets, which means that they generally must be absorbed directly and immediately out of surplus.

Likewise, developing and absorbing growth requires equity capital to fund developmental costs, to cover the initial losses resulting from the need to be price-competitive at the outset in order to become established, to absorb any initial losses resulting from setbacks or inexperience in the new market, and to withstand the short-term surplus strain (i.e., growth in enrollment or volume of business in force, without corresponding immediate growth in surplus). Obviously, a prerequisite for financially sound growth is strong surplus.

B. Monte Carlo Simulation of Losses

Associated with each of the risk and contingency categories identified above is a range of possible impacts on GHMSI's operating results. We use the term "operating results" here as opposed to "underwriting results", since investment results are included in some parts of the analysis. Under this actuarial approach to quantifying the potential multi-year loss against which the company's surplus needs to provide protection, we have developed what we believe is a reasonable range of possible values for each risk and contingency category. Possible outcomes for each risk and contingency category are divided into a discrete number of representative outcome values, to each of which we have assigned a probability or likelihood.

These values and probabilities are based on analysis of historical data, our observation of similar results in connection with our work at various Blue Cross and Blue Shield Plans, interpretation of that data in light of the current and anticipated future operating environment of the Plan, and professional judgment. For those categories of risk involving fluctuations (e.g., rating parameters, unpaid claims liabilities, and interest rates and portfolio asset values), the range includes representative outcomes in which operating results would produce gains, as well as those in which overall cumulative losses would occur. Assignment of probabilities to be associated with each of these outcomes is based on the same considerations used in developing the ranges of values and representative outcomes.

Several of the risks and contingencies faced by GHMSI are interrelated. We recognized this in our treatment of the probabilities by considering certain risks or contingencies to be independent, while considering others to be dependent. The primary independent risk category was fluctuation in rating parameter adequacy. Risks from unpaid claims liability fluctuation and unidentified development and growth were each considered to be fully or partially dependent on the rating fluctuation contingency.

The values and probability distributions for each risk and contingency category were combined using a computerized Monte Carlo simulation technique to produce a composite probability distribution. This composite distribution shows the resulting probability that cumulative

operating losses in total will not exceed given percentages of annual claims and expenses. From each such distribution, a range of multi-year loss cycle amounts can be determined, reflecting the combined risks which have been evaluated and a high probability or likelihood (e.g., greater than 95%) that such a loss level will not be exceeded, even under significant or severe unforeseen adverse circumstances.

We carried out Monte Carlo simulations of loss cycle magnitudes based on the values and probability distributions described above, including incorporation of a higher and lower range in the assumptions with respect to the impact of fluctuation in rating parameter adequacy. The results of these simulations are summarized in Chart 6. It shows in graph form the magnitude of cumulative loss cycles, expressed as percentages of non-FEP insured claims and expenses, at various simulated percentiles of loss cycles. It also displays the range of cumulative loss cycle amounts produced for high confidence levels, as summarized below:

Percentile of Simulated Operating Loss Cycles[1]	**Cumulative Loss for Adverse Cycle[2]**
98^{th}	20% - 23%
95^{th}	17% - 20%
90^{th}	14% - 17%

1 See text below regarding the inclusion of interest rate and asset value risks in addition to risks affecting only underwriting results.

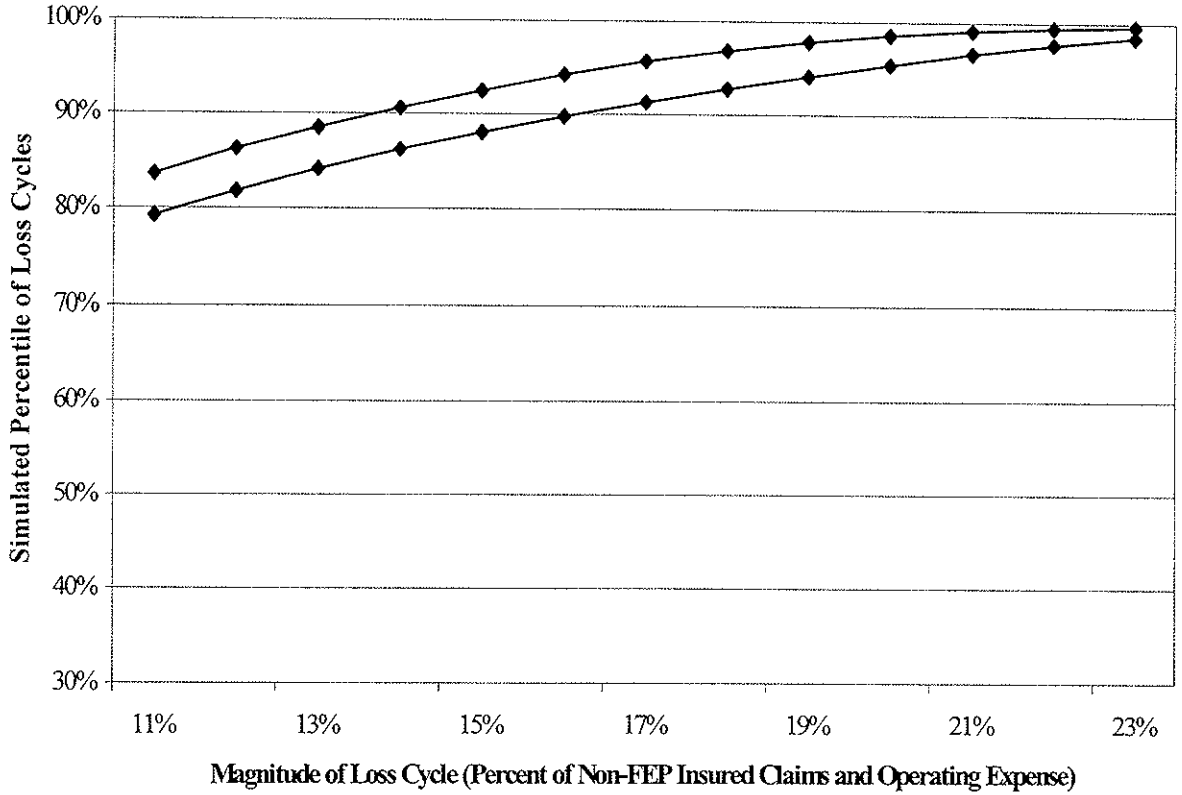
2 As percentage of non-FEP insured claims and expenses.

These simulated results include the impact of risks due to changes in interest rates and portfolio asset values, which are not reflected in the historical underwriting results reported by GHMSI and the Comparison Set of BCBS Plans. The comparable range of losses excluding the interest rate and portfolio asset value risks is 12% to 20%.

We have directed our attention to the 90th through the 98th percentiles of simulated loss cycles in order to identify the magnitude of particularly or severely adverse outcomes (discussed in Section VI of this report). Since the risks and contingencies reflected in the simulations reflect a forward-looking assessment of the GHMSI operation itself, we have selected a relatively high range of percentiles to satisfy these conditions. We have not considered the magnitudes for loss cycles simulated for GHMSI beyond the 98th percentile, because of the remote probabilities for such an occurrence.

Chart 6

Monte Carlo Simulation of Loss Cycles*



Simulated Percentile of Loss Cycles	Cumulative Loss for Adverse Cycle
98th	20% - 23%
95th	17% - 20%
90th	14% - 17%

* Results shown for both the lower and higher range in assumptions, as described in text.

VI. DEVELOPMENT OF TARGET RANGE FOR SURPLUS

A. Provision for Loss Cycles

The goals for an optimal operating range for GHMSI's surplus, as discussed in Section III.D, entail surplus remaining above certain minimum thresholds regardless of the operating results that GHMSI experiences. In particular, we recommend that these goals be established to meet the following criteria:

- ***Early Warning Monitoring Threshold Avoidance*** – Provide a high likelihood that the overall surplus level for GHMSI, as a combined operation, will remain above the BCBSA Early Warning Monitoring threshold level.

- ***Loss of Trademark Avoidance*** – Assure with virtual certainty that surplus will remain above the BCBSA Loss of Trademark threshold level for the operation.

The target surplus range should reflect the need to achieve these goals while also recognizing the possibility of a particularly adverse multi-year period of operating losses. In establishing the potential magnitude of such a loss cycle, we are not predicting it to occur, nor are we suggesting in any way that GHMSI should accept the inevitability of such an adverse cycle occurring during the near term. Instead, we are attempting to establish a magnitude of adversity against which the company should protect itself, its members, and its providers and vendors.

In approaching this analysis, we have used a Monte Carlo simulation approach to quantify an appropriate magnitude for the loss cycles to be considered for purposes of making provision in surplus. In using this approach, we quantified the distributions of amounts of potential loss due to major risk and contingency categories, and then combined such amounts based on provision for their respective likelihoods.

We then compared these resulting loss cycles to the multi-year loss cycles that have been experienced by the GHMSI operation, and to the multi-year adverse cycles that occurred during the past two decades within the industry for generally similar BCBS Plans, as presented in preceding sections of this report. The results of our comparison can be summarized as follows:

Source/Basis	Total Cycle Loss
Simulation of Risks and Contingencies	14 - 23%[1]
GHMSI Experience	12 - 45%[2]
Comparison Set of BCBS Plans	17 - 21%[3]

1 Cumulative losses, expressed as a percentage of annual non-FEP insured claims and expenses.
2 Cumulative underwriting losses, as a percentage of annual non-FEP insured premium.
3 Cumulative underwriting losses as reported by BCBSA.

These three sets of measurements produce similar measures of loss cycle magnitudes, with the exception of the particularly severe 45% loss cycle experienced by GHMSI during 1986-88. As indicated earlier in this report, we have considered the factors involved in this loss cycle and do not believe that the circumstances leading to losses of this magnitude are likely to occur today. Disregarding this anomalous result, the remaining historical loss cycles for the GHMSI operation are 12 and 24%. Overall, these three sets of results are substantively consistent.

Provision for Early Warning Monitoring Threshold. One of the three surplus goals identified earlier in this section of our report is to provide a high likelihood that the overall surplus level for GHMSI will remain above the BCBSA Early Warning Monitoring threshold, even after a particularly adverse period of multi-year operating losses. In order to meet this goal of avoiding the Early Warning Monitoring threshold, the surplus target must be high enough so that (i) a particularly adverse loss cycle can be absorbed, without (ii) the surplus level dropping below the Early Warning Monitoring threshold (375% of RBC-ACL).

To represent a particularly adverse loss cycle based on the simulation of risks and contingencies for GHMSI, we have assumed a multi-year operating loss period creating a cumulative loss falling in the range of 14-20% of annual non-FEP insured claims and administrative expenses. Provision to withstand a loss cycle falling in this range would have included 95% of the simulation loss periods, 85% of the loss cycles experienced by the Comparison Set of BCBS Plans, and would have largely covered two of the three adverse cycles experienced by GHMSI over the past 25 years. Using these criteria to establish a target surplus level means that GHMSI must be able to absorb a 14-20% cumulative loss over a 3 to 4 year period without surplus dropping below 375% of RBC-ACL.

Provision for Loss of Trademark Threshold. Similar conditions apply to meeting the goal of avoiding the Loss of Trademark threshold. The surplus target must be high enough so that (i) a severely adverse loss cycle can be absorbed, without (ii) the surplus level dropping below the Loss of Trademark threshold (200% of RBC-ACL).

To represent a severely adverse loss cycle, we have assumed multi-year cumulative operating losses falling in the range of 20-23% of annual non-FEP insured claims and administrative expenses. Provision to withstand a loss cycle falling in this range would have included 98% of the simulation loss periods, and substantially all of the historical loss periods experienced by GHMSI and the Comparison Set of BCBS Plans. This is consistent with the Loss of Trademark goal of assuring with virtual certainty that failure does not occur as a result of breaching this threshold.

These adverse cycle loss results form the foundation for our pro forma projection model development of GHMSI target surplus levels. To develop such targets, provision for a multi-year loss cycle of the magnitudes indicated in the chart above is combined with minimum floor levels for GHMSI's surplus, based on the BCBSA thresholds, and with investment earnings and other pro forma financial items needed to evaluate changes in surplus.

B. Pro Forma Modeling of Loss Cycle Impact

To establish the GHMSI surplus operating range that would meet the goals established, we projected on a pro forma basis the level of GHMSI surplus balances emerging year-by-year under the adverse loss cycle ranges identified above[3]. In each loss cycle scenario, we selected an initial potential surplus target level, and then tested by projecting the impact of the specific operating loss scenario to determine whether the resulting surplus balances projected over time remained above the threshold within the goal.

Viability Testing Against Early Warning Monitoring Threshold. The upper portion of Chart 7 shows the range of RBC ratios needed at the onset of the indicated operating loss cycles for the company's RBC ratio to remain above the BCBSA Early Warning Monitoring threshold of 375% of RBC-ACL. Results are shown under both 12.5% and 15% assumptions as to annual growth in GHMSI aggregate premium (premium rates and volume of inforce business combined). These growth rate assumptions are intended to reflect modest to moderate sustainable growth rates in enrollment, plus mid-range premium rate increases (high single digit to moderate double digit medical cost trends).

These pro forma results indicate that a starting or target surplus level of 850-1100% of RBC-ACL for GHMSI is needed in order for the company to remain viable while withstanding a particularly adverse operating loss cycle. Under the pro forma projections, GHMSI could withstand such a loss period and remain above the BCBSA Early Warning Monitoring threshold.

Failure Testing Against Loss of Trademark Threshold. The lower portion of Chart 7 contains the corresponding range of RBC ratios needed at the onset of the indicated operating loss cycles to remain above the BCBSA Loss of Trademark threshold of 200% of RBC-ACL. Alternate annual premium growth rates of 12.5% to 15% are reflected.

---

[3] Other key projection assumptions include 4.3% average annual investment yield, other income levels generally consistent with GHMSI's long-term expectations, 200% RBC-ACL equating to approximately 2.2% of insured claims and expenses for the operation, and the elimination of GHMSI's deferred tax asset with an adverse loss period.

These pro forma results indicate that a starting or target surplus level of 800-950% of RBC-ACL is needed by GHMSI in order for the company to avoid the loss of trademark as a result of a severely adverse loss cycle. Under the pro forma projections, GHMSI could withstand such a loss period and remain above the BCBSA Loss of Trademark threshold.

Surplus Target Range for GHMSI. Based on this analysis, we have concluded that a reasonable target for GHMSI's surplus is 800-1100% of RBC-ACL under normal operating circumstances. This range encompasses the values developed from the pro forma projections and shown in Chart 7.

Chart 7

RBC Ratio Needed to Remain Above Minimum Surplus Floor Levels

Simulated Results under Range of Operating Loss Cycles

Operating Loss Cycle	Early Warning Monitoring Floor (375% of RBC-ACL)	
	12.5% Premium Growth*	15% Premium Growth*
14%	850% - 900%	900% - 950%
20%	1000% - 1050%	1050% - 1100%

Operating Loss Cycle	Loss of Trademark Floor (200% of RBC-ACL)	
	12.5% Premium Growth*	15% Premium Growth*
20%	800%	800% - 850%
23%	900% - 950%	950%

* Aggregate growth in premium revenue, including changes in both premium rates and enrollment.

VII. SURPLUS TARGET RANGE AND MANAGEMENT PROCESS

A. Basic Goal for Surplus Management within Target Range

As we indicated earlier, the establishment of a target range for its surplus is one of the more important financial policy issues that a company like GHMSI must address. The same applies to the development, implementation, and periodic updating of business plans to reach and maintain a surplus position within an optimal target surplus range.

Based on the analysis contained in the previous sections of this report, we conclude that an appropriate target for GHMSI's surplus falls in the range of 800-1100% of RBC-ACL. A reasonable goal for GHMSI with regard to achieving this, we believe, is to establish rates overall with a premium margin (surplus contribution factor, along with other financial elements) sufficient to place the company well within the target surplus range, and then maintain this level. This 800-1100% of RBC-ACL range should be wide enough to allow for a reasonable degree of fluctuation in operating results year-to-year, under normal operating circumstances, over a multi-year horizon.

By positioning the Plan's surplus well within the range, the company can then take measured steps in the management of day-by-day financial operations. As the actual level of surplus fluctuates within this range, GHMSI should generally take steps to (i) gradually increase the RBC ratio level as surplus nears the lower end of the target range, and (ii) slow the rate of surplus growth as it nears the upper end. Sustaining favorable operating results for an extended period of time has been rare within the industry, as has been discussed. By focusing on actions to strengthen surplus as it nears the lower end of the target range, and before it drops below the target range, GHMSI can compensate for the fact that the lower end of the target range may not provide the degree of security that a viable company might wish to have. Likewise, by taking actions to ease surplus growth as it nears the upper end of the target range, GHMSI can reduce the likelihood of accumulating surplus amounts that do not further the well-being of the company, without jeopardizing its security.

B. Actions When Surplus is Above Target Range

As indicated above, the basic goal for surplus management by GHMSI under normal circumstances should be to continually attempt to maintain its level well within the target range established. Periodically, the continued appropriateness of the target range itself should be reconsidered, but revised only as fundamental changes in the environment or GHMSI's circumstances and experience clearly warrant.

Needs Outside the Norm. On a regular basis, near-term circumstances that may not be "normal" on an ongoing basis should be closely monitored. From time-to-time, such circumstances may warrant a surplus level above the target range. Such circumstances might involve major upcoming development activities with significant expected costs (e.g., new systems), growth opportunities involving heightened uncertainty and/or probable surplus strain (i.e., downward movement in RBC ratios, due to increased business in force), attractive acquisition candidates requiring equity capital and many other possibilities. These are the sorts of specific circumstances that may require additional surplus, but vary over time as the market and business environment change.

Stable Operating Results and Surplus. For a large insurance company upon whom many depend for their health insurance coverage and the personal security it provides, financial strength and stability are essential. Financial strength has been addressed at length in this report. It is needed, in particular, to provide protection against the risks and uncertainties associated with medical costs and all of the other business matters affecting the insurer. A critical challenge for GHMSI's management team is to manage these risks and, in particular, the premium revenue generated to pay for claims and expenses and to maintain surplus.

Management of premium revenue has its own set of financial and market or customer challenges. Among these are to stabilize year-to-year changes in premium rates to the extent possible, at levels which are sustainable. This is important for GHMSI's customers, who must pay them, and for GHMSI's own financial planning and management. This is a key reason why gradual steps to build or ease its surplus are important, since such steps directly affect the company's premium

rates. Taking other than gradual steps affecting surplus also increases uncertainty for the company, as opposed to steps which ease surplus levels up or down slowly and permit course corrections as ongoing experience emerges.

C. Conclusions

We believe that targeting GHMSI's overall surplus level in the range of 800 – 1100% of RBC-ACL is reasonable and appropriate under normal operating circumstances, to ensure financial viability for the company and to provide security in the health coverage provided to its over one million members.